Amendments to the Specification:

Please add the following paragraph to the application after the title:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation that claims the benefit of priority under 35 U.S.C. §120 of U.S. application serial no. 10/106,832, filed March 25, 2002, now U.S. Patent No. 6,646,118, which is a continuation of serial no. 09/921,203, filed August 2, 2001, now U.S. Patent No. 6,429,309, which is a divisional of U.S. application serial no. 09/254,048, filed July 19, 1999, now U.S. Patent No. 6,291,669, which is a National Stage application under 35 USC § 371 and claims benefit under 35 U.S.C. §119 of International Application No. PCT/SE97/01418, having an International Filing Date of August 27, 1997. The disclosures of the prior applications are considered part of (and are incorporated by reference in) the disclosure of this application.

Please replace the paragraph beginning at page 6, line 1 with the following amended paragraph:

The protecting groups R_1 and R_7 are protecting groups usually used for protection of 5' and 2' positions of ribo- and deoxiribonucleosides. R_1 may ~~bee~~ be selected from a trityl, monomethoxy trityl, dimethoxytrityl, pixyl or other high alkoxy-substituted trityl- protecting groups.

Please replace the paragraph beginning at page 6, line 7 with the following amended paragraph:

R_7 may ~~bee~~ be selected from tertbutyldimethylsilyl (TBDMS), methoxytetrahydropyranoyl (MTHP), tetrahydropyranoyl, methyl or allyl.

Please replace the paragraph beginning at page 19, line 23 with the following amended paragraph:

The risk of depurination of an oligonucleotide increases with the number of purine and the total length of the oligonucleotide. An increased amount of purines in an oligodeoxynucleotide gives a high probability of its depurination and the following [[brake-down]] breakdown. To show the capability of the new method to eliminate these short sequences, two 81-mer $(AG)_{40}T$ sequences were synthesized in parallel using standard and novel CPG-based supports (14), respectively. Partially deprotected 5'-DMTr-substituted oligonucleotides were analyzed and isolated by HPLC. Both products were detritylated, 5-^{32}P kinases and electrophoretically separated on a denaturing polyacrylamide gel. The results[[,]] presented in Fig. 2 show the superiority of the invention compared to prior art. This superiority could already be anticipated by comparing the shapes of the HPLC chromatogram (A). The much broader peak obtained in the standard synthesis reflects the presence of the shorter and therefore more hydrophobic tritylated fragments. It is clear from the scanned presentation of the gel separation (B) that the product synthesized according to the present invention is practically free of all truncated and depurinated sequences. Moreover, this material contains a substantially lesser amount of n-1 fragments ~~(D) compared to (C)~~.

Please replace the paragraph beginning at page 20, line 14 with the following amended paragraph:

A 91-mer oligonucleotide (M13C91: 5'-P-GCCTGCAGGTCGACTCTAGA$(T)_{50}$CGGCCAGTGCCAAGCTTGCA-3', SEQ ID NO:1) ~~were~~ was synthesized according to the invention in order to test how it would work as a padlock probe [Nilsson et al (1994), supra] that is able to circularize in the presence of an oligonucleotide template (M1350comp: 5'-TTTTTCTAGAGTCGACCTGCAGGCATGCAAGCTTGGCACTGGCCGTTTTT-3', SEQ ID NO:2) and a DNA-ligase. The ligation reaction was performed using 0.3 pmol of 5'-labelled probe and 5.5 pmol of template in a volume of 10 µl 20 mM Tris-HCl (pH 8.3), 25 mM KCl, 10 mM $MgCl_2$, 1 mM NAD, 0.01% Triton X-100 and 10 U of Tth DNA ligase. The samples were subjected to one, two or three cycles of 94°C for 15 seconds and 55°C for 10 min. The reactions were cooled on ice and stopped by adding 10 µl of loading buffer containing 50 % formamide and 10 mM EDTA followed by an incubation at 65°C for 10 min. The reactions were analyzed on a denaturing polyacrylamide gel as above.

Please replace the paragraph beginning at page 21, line 8 with the following amended paragraph:

The present invention delivers products free of truncated and post-depurination cleaved fragments, ~~moreover,~~ and moreover, the isolated products contain much less n-1 fragments. The amount of this n-1 material was estimated, in a study performed on a short 5-mer sequence and using a standard synthesis protocol ([Iyer et al, (1995), **14**(6) 1349-1357]), to be roughly 3 to 5 %. By applying pre-cap procedure according to Iyer et al and short contact time of ammonia with the CPG support, it was possible to lower this figure to 1.5 to 2 %. In contrast, in an experiment according to the present invention for synthesis of a 20-mer using CPG support (14), the amount of contaminating n-1 sequences was found to be 1.9%.

Please insert the paper copy of the Sequence Listing following the Oath/Declaration.